



The effects of summer temperature, age and socioeconomic circumstance on acute myocardial infarction admissions in Melbourne, Australia

Author(s): Loughnan ME, Nicholls N, Tapper NJ
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Abstract:

BACKGROUND: Published literature detailing the effects of heatwaves on human health is readily available. However literature describing the effects of heat on morbidity is less plentiful, as is research describing events in the southern hemisphere and Australia in particular. To identify susceptible populations and direct public health responses research must move beyond description of the temperature morbidity relationship to include social and spatial risk factors. This paper presents a spatial and socio-demographic picture of the effects of hot weather on persons admitted to hospital with acute myocardial infarction (AMI) in Melbourne. **RESULTS:** In this study, the use of a spatial and socio-economic perspective has identified two groups within the population that have an increased 'risk' of AMI admissions to hospital during hot weather. AMI increases during hot weather were only identified in the most disadvantaged and the least disadvantaged areas. Districts with higher AMI admissions rates during hot weather also had larger proportions of older residents. Age provided some explanation for the spatial distribution of AMI admissions on single hot days whereas socio-economic circumstance did not. During short periods (3-days) of hot weather, age explained the spatial distribution of AMI admissions slightly better than socioeconomic circumstance. **CONCLUSIONS:** This study has demonstrated that both age and socioeconomic inequality contribute to AMI admissions to hospital in Melbourne during hot weather. By using socioeconomic circumstance to define quintiles, differences in AMI admissions were quantified and demographic differences in AMI admissions were described. Including disease specificity into climate-health research methods is necessary to identify climate-sensitive diseases and highlight the burden of climate-sensitive disease in the community. Cardiac disease is a major cause of death and disability and identifying cardiac-specific climate thresholds and the spatio-demographic characteristics of vulnerable groups within populations is an important step towards preventative health care by informing public health officials and providing a guide for an early heat-health warning system. This information is especially important under current climatic conditions and for assessing the future impact of climate change.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2924270>

Resource Description

Exposure : ☐

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Heat

Climate Change and Human Health Literature Portal

Geographic Feature:

resource focuses on specific type of geography

Ocean/Coastal, Urban

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect

Cardiovascular Effect: Heart Attack

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Elderly, Low Socioeconomic Status

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified